



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,918	12/27/2001	Michael L. Heubel	BE1-004US	8051

49584 7590 06/06/2005

LEE & HAYES, PLLC
421 W. RIVERSIDE AVE.
SUITE 500
SPOKANE, WA 99201

EXAMINER

GRIER, LAURA A

ART UNIT	PAPER NUMBER
----------	--------------

2644

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,918

Applicant(s)

HEUBEL ET AL.

Examiner

Laura A. Grier

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-7, and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota and Konstantinou in view of Shapiro, U. S. Patent No. 5420907.

Regarding **claims 1, 11 and 13**, respectively, Kubota discloses a receiver (figure 1 and 5 and paragraph 0031) comprising a microphone (26) for detecting a ring tone of a telephone, a chime of an interphone, etc., which reads on an audio signal detector for remotely receiving an audible ring signal transmitted via an acoustic medium; a processing judgment section (36), which indicates a processing in communication with the detector; Kubota further discloses a memory (43m) coupled with a logic judgment section (44), wherein the memory stores reference data for the ring tone of a telephone, a chime of the an interphone detected by the microphone, wherein the predetermined digitized data is obviously disclosed as evident by the fact that the data is stored in memory, which indicates comparing the received audio ring signal with one or more predetermined audio ring signals and is pre-stored in a memory/storage device with the processor, and based on the compared results, the volume of the receiver is reduced,

which constitutes generating a mute signal, therein. However, Kubota fails to disclose the audible ring signal being converted to a digitized signal.

Regarding the audible ring signal being converted to a digitized signal, in a similar field, Konstantinou et al. (herein, Konstantinou) discloses an analog-to-digital converter (62/64), for converting an analog sound signal into a digital signal (figure 1, col. 5, lines 1-5).

Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota by implement an A/D converter for converting the audible ring signal to an digitized ring signal, for adequate processing or comparing of the detect signal in the processing section of the receiver.

Kubota and Konstantinou fails to disclose a training on/off switch. In a similar field of endeavor, Shapiro discloses an automatic control system comprising a switch for enabling a learning mode for audio producing devices that are subjected to being muted based upon a particular sensed ring signa (figure 2, references 30, and 50 – col. 3, lines 32-56, col. 4, lines 37-59), which reads on a training on/off switch. Further, Shapiro discloses a memory coupled the learning circuit for the purpose storing received coded data for particular signals, which indicates in response to a 1st setting of the training mode o/off switch, wherein it obvious to provide for a second setting for making a comparison from among the stored information.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota and Konstantinou by providing a learning mode switch (training switch) for the purpose of enabling a control system to

adequate recognize and incoming ring signal based upon a particular signal characteristic such as a signal code and muting the audio producing accordingly to control the level of audio interference in a particular listening environment.

Regarding **claim 2**, Kubota and Konstantinou and Shapiro (herein, Kubota combination) discloses everything claimed as applied (see claim 1). Kubota combination (Kubota) further discloses a microphone (26).

Regarding **claim 3**, Kubota combination discloses everything claimed as applied (see claim 1). Further, Kubota combination (Konstantinou) discloses an amplifier (14/16). Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota combination by implementing an amplifier for the purpose of amplifying the signal detected by the microphone (col. 3, lines 50-58).

Regarding **claim 4**, Kubota Kubota combination discloses everything claimed as applied (see claim 1). Further, Kubota combination (Konstantinou) discloses an analog-to-digital converter (62/64) coupled the output of a microphone for converting an analog sound signal into a digital signal (figure 1, col. 5, lines 1-5).

Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota combination by implement an A/D converter for converting the audible ring signal to an digitized ring signal, for adequate processing or comparing of the detect signal in the processing section of the receiver.

Regarding **claim 6**, Kubota discloses a receiver (figure 1 and 5 and paragraph 0031) comprising a microphone (26) for detecting a ring tone of a telephone, a chime of an interphone, etc., which reads on means for detecting an audible ring signal transmitted via an acoustic medium; Kubota further discloses a memory (43m) coupled with a logic judgment section (44), wherein the memory stores reference data for the ring tone of a telephone, a chime of the an interphone detected by the microphone, wherein the predetermined digitized data is obviously disclosed as evident by the fact that the data is stored in memory, which indicates means for presorting and comparing the received audio ring signal with one or more predetermined audio ring signals, and based on the compared results, the volume of the receiver is reduced, which constitutes generating a mute signal, therein. However, Kubota fails to disclose the audible ring signal being converted to a digitized signal.

Regarding the audible ring signal being converted to a digitized signal, in a similar field, Konstantinou discloses an analog-to-digital converter (62/64), for converting an analog sound signal into a digital signal (figure 1, col. 5, lines 1-5).

Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota by implement an A/D converter for converting the audible ring signal to an digitized ring signal, for adequate processing or comparing of the detect signal in the processing section of the receiver.

Kubota and Konstantinou fail to disclose a training on/off switch. In a similar field of endeavor, Shapiro discloses an automatic control system comprising a switch for enabling a learning mode for audio producing devices that are subjected to being muted

Art Unit: 2644

based upon a particular sensed ring signal (figure 2, references 30, and 50 – col. 3, lines 32-56, col. 4, lines 37-59), which reads on a training on/off switch. Further, Shapiro discloses a memory coupled the learning circuit for the purpose storing received coded data for particular signals, which indicates in response to a 1st setting of the training mode on/off switch, wherein it is obvious to provide for a second setting for making a comparison from among the stored information.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kubota and Konstantinou by providing a learning mode switch (training switch) for the purpose of enabling a control system to adequately recognize and incoming ring signal based upon a particular signal characteristic such as a signal code and muting the audio producing accordingly to control the level of audio interference in a particular listening environment.

Regarding **claim 7**, Kubota and Konstantinou discloses everything claimed as applied (see claim 6). Konstantinou further discloses an amplifier (14/16). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kubota by implementing an amplifier for the purpose of amplifying the signal detected by the microphone (col. 3, lines 50-58).

Regarding **claim 9**, Kubota discloses a receiver (figure 1 and 5 and paragraph 0031) comprising a microphone (26) for detecting a ring tone of a telephone, a chime of an interphone, etc., which reads on a transducer remotely receiving an audible ring signal transmitted via an acoustic medium; a processing judgment section (36) which

Art Unit: 2644

includes a memory (43m) coupled with a logic judgment section (44), wherein the memory stores reference data for the ring tone of a telephone, a chime of the an interphone detected by the microphone, wherein the predetermined digitized data is obviously disclosed as evident by the fact that the data is stored in memory, which indicates comparing the received audio ring signal with one or more predetermined audio ring signals and is pre-stored in a memory/storage device with the processor, and based on the compared results, the volume of the receiver is reduced, which constitutes generating a mute signal, therein. However, Kubota fails to disclose an amplifier connected the transducer, an analog-to-digital signal converter, and digital signal processor.

Regarding the amplifier, an A/D converter, and a digital signal processor, in a similar field, Konstantinou discloses an amplifier (14/16) coupled to the output of the transducer for amplifying a signal, an analog-to-digital converter (62/64), for converting an analog sound signal into a digital signal (figure 1, col. 5, lines 1-5), and microprocessor, which obviously constitutes as a digital signal processor as evident by the fact that it processes the digital signals output by the A/D converters.

Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota by implement an amplifier (amplifying the microphone output), an A/D converter (converting the acoustic/analog signal to a digital signal), and a digital signal processor (digital processing of digital signal) for the purpose of adequately processing the detected signal to enable efficient sound control.

Kubota and Konstantinou fail to disclose a training on/off switch. In a similar field of endeavor, Shapiro discloses an automatic control system comprising a switch for enabling a learning mode for audio producing devices that are subjected to being muted based upon a particular sensed ring signal (figure 2, references 30, and 50 – col. 3, lines 32-56, col. 4, lines 37-59), which reads on a training on/off switch. Further, Shapiro discloses a memory coupled the learning circuit for the purpose storing received coded data for particular signals, which indicates in response to a 1st setting of the training mode on/off switch, wherein it obvious to provide for a second setting for making a comparison from among the stored information.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota and Konstantinou by providing a learning mode switch (training switch) for the purpose of enabling a control system to adequately recognize and incoming ring signal based upon a particular signal characteristic such as a signal code and muting the audio producing accordingly to control the level of audio interference in a particular listening environment.

Regarding **claim 10**, Kubota discloses a receiver (figure 1 and 5 and paragraph 0031) comprising a microphone (26) for detecting a ring tone of a telephone, a chime of an interphone, etc., which reads on means for detecting an audible ring signal transmitted via an acoustic medium; Kubota further discloses a memory (43m) coupled with a logic judgment section (44), wherein the memory stores reference data for the ring tone of a telephone, a chime of the an interphone detected by the microphone,

wherein the predetermined digitized data is obviously disclosed as evident by the fact that the data is stored in memory, which indicates means for presorting and comparing the received audio ring signal with one or more predetermined audio ring signals, and based on the compared results, the volume of the receiver is reduced, which constitutes generating a mute signal, therein. However, Kubota fails to disclose the audible ring signal being converted to a digitized signal.

Regarding the audible ring signal being converted to a digitized signal, in a similar field, Konstantinou discloses an analog-to-digital converter (62/64), for converting an analog sound signal into a digital signal (figure 1, col. 5, lines 1-5).

Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota by implement an A/D converter for converting the audible ring signal to an digitized ring signal, for adequate processing or comparing of the detect signal in the processing section of the receiver.

Kubota and Konstantinou fail to disclose a training on/off switch. In a similar field of endeavor, Shapiro discloses an automatic control system comprising a switch for enabling a learning mode for audio producing devices that are subjected to being muted based upon a particular sensed ring signa (figure 2, references 30, and 50 – col. 3, lines 32-56, col. 4, lines 37-59), which reads on a training on/off switch. Further, Shapiro discloses a memory coupled the learning circuit for the purpose storing received coded data for particular signals, which indicates in response to a 1st setting of the training mode o/off switch, wherein it obvious to provide for a second setting for making a comparison from among the stored information/data. In col. 4, Shapiro indicated

determining if the detected signal is for training or not wherein, and obviously indicating that some comparison does result as evident of the fact that it is determined that the signal is or is not a predetermined event signal (col. 4, lines 6-12 and lines 49-62).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kubota and Konstantinou by providing a learning mode switch (training switch) for the purpose of enabling a control system to adequately recognize and incoming ring signal based upon a particular signal characteristic such as a signal code and muting the audio producing accordingly to control the level of audio interference in a particular listening environment.

3. Claim 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota combination in view of applicant's submission of prior art.

Regarding claim 14, Kubota combination discloses everything claimed as applied above (see claim 11). However, Kubota combination fails to specifically disclose a storage key. The applicant admitted on page six of the specification that such a key was a conventional technique. Thus, it would have been obvious to one of the ordinary skill in the art to implement a storage key for the purpose labeling ring signal data in memory upon activating the learning mode switch (training on/off switch).

Response to Arguments

4. Applicant's arguments with respect to claims 1-4, 6-7, and 9-14 have been considered but are moot in view of the new ground(s) of rejection.

The applicant essentially argues that Kubota and Konstantinou that not provide support or motivation for having a training on/off switch. However, the technique and concept of training a device to recognize particular sounds, ringing signals, was a commonly used practice in art and thus, it was obvious to one of ordinary skill. Thus, a new reference has been provided to a training on/off switch to modify the Kubota and Konstantinou rejection. A rejection has been provided for claim 14, in respect to the new amended claim language in view of the applicant's submission of prior art as discussed in the specification as being a conventional concept.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A. Grier whose telephone number is (571) 272-7518. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh N. Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Laura A. Grier
May 31, 2005